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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,262	12/07/2004	Kazuhiko Sugimoto	2004 1872A	8743

513 7590 03/25/2008

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EXAMINER	
GUHARAY, KARABI	

ART UNIT	PAPER NUMBER
2889	

MAIL DATE	DELIVERY MODE
03/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,262	SUGIMOTO ET AL.	
	Examiner	Art Unit	
	Karabi Guharay	2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Amendment, filed on 12/14/2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7 and 8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7 and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

Amendment, filed on 12/14/2007 has been considered and entered.

Claims 1-6 are canceled.

New claims 7-8 are added. Currently claims 7-8 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Takayuki et al. (JP8-115673).

Regarding claims 7-8, Takayuki et al. discloses a plasma display device comprising: a plurality of discharge cells arranged to show a single color or multiple colors; and phosphor layers disposed so as to correspond to the discharge cells and to be excited by ultraviolet rays for emitting light, (see paragraphs 0002 & 0007 of Detailed description section of English translation), wherein a composition formula of at least one phosphor layer of the phosphor layers is $Ba_{(1-x-y)}\ Sr_y\ Mg\ Al_{10}O_{17}:Eu_x$, wherein x has a value such that $0.01 \leq x \leq 0.20$, and y has a value such that $0 \leq y \leq 0.30$ (see Paragraph 0007; phosphor composition $Ba_{(1-x)}\ Mg\ Al_{10}O_{17}:Eu_x$ where $.05 \leq x \leq 0.5$, satisfies the above formula, when y=0).

Further limitations of claims 7-8 are considered as product by process limitation.

Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product. It is well established that a claimed apparatus cannot be distinguished over the prior art structure by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject process limitation is not afforded patentable weight (see MPEP 2113).

In the alternative,

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 7-8 are rejected under 35 U.S.C. 103(a) as obvious over Takayuki et al. (JP8-115673), in view of Do et al. (US 2002/0039665).

Regarding claims 7-8, Takayuki et al. discloses all the limitations of claims 7-8 (see rejection of claims 7-8 above) except for phosphor layer is formed of a phosphor which has been heat treated in an oxidizing atmosphere, wherein the heat treatment temperature is not less than not less than 600°C and not more than 1000°C.

However, in the same field of Plasma display, Do et al. discloses that the phosphor layers in the plasma display is formed by annealing the phosphor particles at a temperature not less than 600°C and not more than 1000°C in an oxidizing atmosphere

(see paragraph 55). Do et al. further teaches that such heat treated phosphor layer provides improved optical characteristics after heat deterioration (see paragraph 56).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to heat treat the phosphor layer of US patent 6,960309, as taught by Do et al. since this will provide improved optical characteristics of the phosphor layer and also the life characteristics of the layer.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 7-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6960309. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims 7-8 of instant application and claim 1 of US 6,960,309 discloses a

plasma display comprising a plurality of discharge cells, arranged to show one or multiple colors, and phosphor layers disposed, so as to correspond to the discharge cells and to be excited by ultraviolet rays for emitting light, wherein a composition formula of at least one phosphor layer of the phosphor layers is $Ba_{(1-x-y)}$ Sr_y Mg $Al_{10}O_{17}:Eu_x$, wherein x has a value such that $0.01 \leq x \leq 0.20$, and y has a value such that $0 \leq y \leq 0.30$ (see claim 1 of 6.960,309).

Further limitations of claim 7-8 are considered as product by process limitation. Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product. It is well established that a claimed apparatus cannot be distinguished over the prior art structure by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject process limitation is not afforded patentable weight (see MPEP 2113).

Or alternatively, Claims 7-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim1 of U.S. Patent No. 6,960,309, in view of Do et al. (US 2002/0039665).

Regarding claims 7-8, both instant application and claim 1 of US 6,960,309 discloses a plasma display comprising a plurality of discharge cells, arranged to show one or multiple colors, and phosphor layers disposed, so as to correspond to the discharge cells and to be excited by ultraviolet rays for emitting light, wherein a composition formula of at least one phosphor layer of the phosphor layers is

$Ba_{(1-x-y)}$ Sr_y Mg $Al_{10}O_{17}$:Eu_x, wherein x has a value such that $0.01 \leq x \leq 0.20$, and y has a value such that $0 \leq y \leq 0.30$ (see claim 1 of 6.960,309).

But claim 1 of patent # 6,960,309 does not further disclose that the phosphor layer is formed of a phosphor which has been heat-treated in an oxidizing atmosphere, wherein the heat treatment temperature is not less than 600°C and not more than 1000°C. However, in the same field of Plasma display, Do et al. discloses that the phosphor layers in the plasma display is formed by annealing the phosphor particles at a temperature not less than 600°C and not more than 1000°C in an oxidizing atmosphere (see paragraph 55). Do et al. further teaches that such heat treated phosphor layer provides improved optical characteristics after heat deterioration (see paragraph 56).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to heat treat the phosphor layer of US patent 6,960309, as taught by Do et al. since this will provide improved optical characteristics of the phosphor layer and also the life characteristics of the layer.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karabi Guharay/
Primary Examiner, Art Unit 2889